"Inclusive Education in Focus: Addressing the Educational Needs of Visually Impaired Students in Middle Stage (Age 11-14) Under NEP 2020"

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Abstract:
This study explores the educational needs of visually impaired students aged 11-14 under the National Education Policy (NEP) 2020, focusing on the Lucknow district of Uttar Pradesh, India. The objectives include assessing the current status of educational provisions, examining the accessibility and effectiveness of instructional materials, and identifying barriers that hinder academic success. Employing a mixed-methods approach, the research utilizes quantitative surveys and qualitative interviews to gather comprehensive data from 25 visually impaired students in selected schools. The findings related to the challenges and successes experienced in inclusive education. This research seeks to provide insights that can inform better educational practices and support mechanisms, ultimately enhancing the learning experiences of visually impaired students in the middle stage.
Keywords: Inclusive education, visually impaired students, Middle Stage, National Education Policy (NEP) 2020, accessibility, support mechanisms.

Introduction: The National Education Policy (NEP) 2020 advocates for inclusive education, aiming to ensure equitable access and opportunities for all learners, including visually impaired students. This research papers explore the educational needs and challenges faced by visually impaired students within the framework of NEP 2020. Grounded in principles of inclusivity, the papers explore various facets of educational provision, accessibility, and support mechanisms for visually impaired students during this pivotal stage of their academic journey. Introduction: Inclusive education is a fundamental aspect of promoting equity and accessibility in the educational landscape, aiming to cater to the diverse needs of all learners, including those with disabilities. The National Education Policy (NEP) 2020 underscores the importance of inclusive education and strives to ensure that every child receives quality education, regardless of their abilities or backgrounds. However, despite these efforts, visually impaired students often encounter significant challenges in accessing educational opportunities, particularly during the critical developmental. This literature review critically examines the educational needs of visually impaired students in the Middle Stage under the framework of NEP 2020, aiming to identify opportunities and barriers to inclusive education.

Inclusive Education for Visually Impaired Students: Inclusive education encompasses a range of practices, policies, and strategies aimed at accommodating the diverse needs of all learners within mainstream educational settings. For visually impaired students, inclusive education involves providing accessible learning materials, assistive technologies, and support services to facilitate their active participation and engagement in the learning process. Research suggests that inclusive education

not only benefits visually impaired students academically but also fosters social integration, self-confidence, and independence.

Challenges Faced by Visually Impaired Students: Despite the principles of inclusive education, visually impaired students encounter various challenges that hinder their educational experiences and outcomes. These challenges may include limited access to braille materials and assistive technologies, inadequate teacher training and support, inaccessible physical environments, and social stigma and discrimination. Additionally, systemic barriers such as lack of awareness, funding constraints, and policy gaps contribute to the marginalization of visually impaired students in the educational system.

Opportunities and Support Mechanisms: Efforts to address the educational needs of visually impaired students under NEP 2020 present opportunities for enhancing inclusive education practices and support mechanisms. These may include the development of inclusive curriculum frameworks, provision of specialized training for educators, promotion of universal design principles in learning materials and assessments, and establishment of resource centers for visually impaired students. Collaborative partnerships between government agencies, educational institutions, NGOs, and community stakeholders are essential for fostering a supportive and inclusive learning environment for visually impaired students.

Exploring Educational Needs and Challenges: The research papers within this collection adopt diverse methodologies and perspectives to delve into the educational needs and challenges faced by visually impaired students. Through qualitative interviews, quantitative surveys, and observational studies, researchers aim to gain insights into the unique experiences, barriers, and aspirations of visually impaired students navigating the Middle Stage of education. By employing a multifaceted approach, researchers seek to comprehensively understand the complexities of the educational journey for visually impaired students and identify areas for improvement.

Understanding Accessibility and Support Mechanisms: A central focus of the research papers is to investigate the accessibility of educational environments and the effectiveness of support mechanisms for visually impaired students. This includes examining the availability and utilization of assistive technologies, learning resources, and accommodations tailored to meet the specific needs of visually impaired learners. Additionally, researchers explore the role of educators, administrators, and policymakers in fostering inclusive practices and creating supportive learning environments. By evaluating the efficacy of existing support mechanisms, researchers aim to propose recommendations for enhancing accessibility and support for visually impaired students.

Examining Policy Implications: Aligned with the principles of NEP 2020, the research papers critically analyze existing policies and regulations related to inclusive education for visually impaired students. Researchers assess the adequacy and implementation of policies aimed at promoting accessibility, equity, and inclusion in educational settings. Recommendations are proposed for policy reforms and strategies to address gaps and enhance the educational experiences of visually impaired students in the Middle Stage. By examining policy implications, researchers contribute to shaping inclusive education policies that prioritize the needs of visually impaired students and foster a more equitable and accessible educational landscape.

Promoting Inclusive Practices: Through a nuanced exploration of classroom practices, teaching strategies, and curriculum adaptations, researchers identify effective approaches to promote inclusivity and accommodate the diverse learning needs of visually impaired students. By highlighting successful interventions and innovative practices, the research papers offer insights into creating enriching and engaging learning experiences for visually impaired students within mainstream educational settings. By promoting inclusive practices, researchers aim to empower educators and stakeholders to create environments that celebrate diversity and ensure equal opportunities for all learners, including visually impaired students.

"Exploring Accessibility: An Assessment of Instructional Materials for Visually Impaired Students in Middle Stage Education under NEP 2020" - This research paper investigates the availability and effectiveness of instructional materials, including braille resources, tactile diagrams, and audio materials, for visually impaired students in the Middle Stage. Through surveys, interviews, and observations, the study assesses the accessibility of these materials and identifies areas for improvement.

"Inclusive Pedagogies: Promoting Student Engagement and Participation among Visually Impaired

Students in Middle Stage Education under NEP 2020" - Focusing on pedagogical approaches, this paper explores strategies for promoting active learning, collaboration, and participation among visually impaired students. Drawing on classroom observations and teacher interviews, the research identifies inclusive practices that enhance student engagement and academic achievement.

"Support Services and Beyond: Addressing Social-Emotional Needs of Visually Impaired Students in Middle Stage Education under NEP 2020" - This paper examines the availability and effectiveness of support services, including counseling, peer mentoring, and disability accommodations, for addressing the social-emotional needs of visually impaired students. Through surveys and focus group discussions, the study explores the impact of these services on student well-being and academic success.

"Teacher Training and Professional Development: Building Capacity for Inclusive Education of Visually Impaired Students in Middle Stage Education under NEP 2020" - Focusing on teacher preparation and professional development, this paper assesses the training needs and competencies required to effectively support visually impaired students in the Middle Stage. Using surveys and interviews, the research identifies gaps in teacher training and recommends strategies for building capacity in inclusive education practices.

These research papers collectively contribute to a comprehensive understanding of the educational landscape for visually impaired students in the Middle Stage under NEP 2020, informing policy, practice, and future research directions in inclusive education.

Literature Review:
Gurramkonda, Bhaskar, and C. Vanitha. Conducted a research on "Awareness on Assistive technology among pre-service teachers to promote inclusive education."
This study investigates preservice teachers' awareness of Assistive Technology (AT) for promoting inclusive education. It employs a quantitative survey method with a validated Guttman scale comprising 35 items. The sample includes 222 preservice teachers from five B. Ed. colleges in Kasargod District, Kerala. Initial findings indicate moderate awareness of AT among preservice teachers, with no significant differences based on gender, pedagogy subject, or locality. However, the study reveals limited implementation of AT tools in classrooms despite awareness. It emphasizes the necessity of comprehensive training to bridge the gap between knowledge and effective utilization of AT. The research contributes to understanding preservice teachers' AT awareness in an Indian context. It highlights the importance of enhancing practical implementation of AT to support inclusive education effectively.

Bhatnagar, T., Upadhyay, V., Rao, P. M., Marquardt, N., Miodownik, M., & Holloway, C. (2023). This study examines the educational experiences of visually impaired university students in India through the Frame of Interdependence. It identifies challenges stemming from inadequate support from social relations and ableist interactions, hindering academic success. Through Resilience Theory, the research highlights students' development of self-confidence, intrinsic motivation, and resourcefulness in overcoming obstacles. Integration of assistive technologies emerges as a key need for enhancing accessibility and facilitating social integration. The findings underscore the importance of equitable and inclusive education practices for visually impaired students. Addressing these challenges requires a holistic approach that acknowledges the interplay between social support, individual resilience, and technological advancement. Overall, the study advocates for systemic changes to promote the educational advancement and social inclusion of visually impaired individuals in India.

Samtani, Shubh, and Suresh Bhagavatula (2022). Conducted a research on National Education Policy (NEP) 2020: A necessary investment for India's education imperatives. This paper focused on the success of the National Education Policy (NEP) 2020 hinges on effective implementation, requiring significant investment to modernize schools and infrastructure. However, true transformation demands more than policy alone—it necessitates upgraded teacher skills, robust infrastructure, and accountable governance. Transparency and accountability measures must extend beyond enrollment percentages to encompass the quality of children's educational experiences and their readiness for employment. With a solid foundation in early childhood education, India's youth can propel the nation forward in the 21st century.

Shanker and Kant (2021) conducted a research) delves into barriers to inclusion for visually impaired individuals, aligning with the Salamanca Statement Framework. Initiatives like Sarva Shiksha Abhiyan and Samagra Shiksha Abhiyan in India foster inclusivity. Measures, including architectural adjustments, support inclusivity in schools. Data from Patna, Bihar, reveal positive stakeholder support but significant barriers persist, such as high costs and limited technology availability. NGOs and government collaborations drive awareness programs, improving support for visually impaired individuals. Empowerment examples underscore the importance of inclusive education efforts.

Mehak, and Sambit Kumar Mishra (Conducted a research on "Inclusive Education in NEP 2020: Looking Beyond Horizon. "This paper will critically analyze how India's National Education Policy (NEP) 2020 aims to ensure inclusive schooling experiences for children with disabilities (CWDs) aged 6 to 14. By examining both existing and new practices outlined in the policy, it will identify areas where inclusivity may be lacking or insufficiently addressed. Utilizing qualitative research methodology informed by Nancy Fraser's framework of Social Justice, the paper will offer recommendations to enhance the educational support and opportunities for CWDs within the Indian education system.

Research questions of study:
1. What are the current statuses of educational provision for visually impaired students in the Middle Stage (ages 11-14) under the framework of NEP 2020?
2. How to examine the accessibility and effectiveness of instructional materials, including textbooks, supplementary resources, and assistive technologies, for visually impaired students in the Middle Stage.
3. What are the barriers and challenges faced by visually impaired students in accessing instructional materials in the Middle Stage, and how do these challenges impact their educational experiences?

Objectives of the Study:
1. To assess the current status of educational provision for visually impaired students in the Middle Stage (ages 11-14) under the framework of NEP 2020.
2. To examine the accessibility and effectiveness of instructional materials, including textbooks, supplementary resources, and assistive technologies, for visually impaired students in the Middle Stage.
3. To identify the barriers and challenges faced by visually impaired students in accessing educational resources, participating in classroom activities, and achieving academic success during the Middle Stage.

Methodology: This research adopts a mixed-methods approach, integrating both quantitative and qualitative data collection techniques. Surveys are distributed to visually impaired students across various schools in the Lucknow district to gather quantitative data on the availability and accessibility of instructional resources and auxiliary aids.

In addition to surveys, in-depth interviews and focus group discussions are conducted to gain qualitative insights into the challenges and successes experienced in implementing inclusive education practices under NEP 2020. The collected data are analyzed using both descriptive and thematic analysis techniques, allowing for the identification of patterns, themes, and emerging issues related to the educational experiences of visually impaired students. This comprehensive approach aims to provide a well-rounded understanding of the current state of inclusive education in the region.

Population for this study: The population for this study consists of visually impaired students in the Middle Stage (ages 11-14) under NEP 2020, in the Lucknow district of the state of Uttar Pradesh in India.

Sample of the study: The samples were comprise 25 visually impaired students in the Middle Stage (ages 11-14) from purposively chosen schools in Lucknow district of Uttar Pradesh, India."

Tools used: A structured questionnaire were developed to assess the current status of educational

provision for visually impaired students under the framework of NEP 2020.Researcher to develop the checklist to examine the accessibility and effectiveness of instructional materials, including textbooks, supplementary resources, and assistive technologies, for visually impaired students in the Middle Stage. Interview for the visually impaired students in accessing educational resources, participating in classroom activities, and achieving academic success.

Data Collection: A structured questionnaire, checklist and interview were administered to gather data on various aspects of educational provision, accessibility, and support mechanisms for visually impaired students.

Data Analysis: Descriptive statistics, including percentages, were computed to analyze the data. The analysis provided insights into participants' perceptions of educational provision for visually impaired students under NEP 2020.

Results:
Objective 1.To assess the current status of educational provision for visually impaired students in the Middle Stage (ages 11-14) under the framework of NEP 2020.
The study found that while there was some strength in educational provision for visually impaired students under NEP 2020, significant challenges remained. Participants reported varying levels of accessibility to assistive technologies, support services, and teacher training. Overall, there was a need for improvement in curriculum accessibility, availability of resources, and inclusivity in the learning environment. This report presents the findings of the assessment of educational provision for visually impaired students under the framework of the National Education Policy (NEP) 2020. The study aimed to identify strengths, challenges, and areas for improvement in supporting the educational experiences of visually impaired students. The findings reveal both positive aspects and significant challenges in the current educational provision for visually impaired students under NEP 2020.
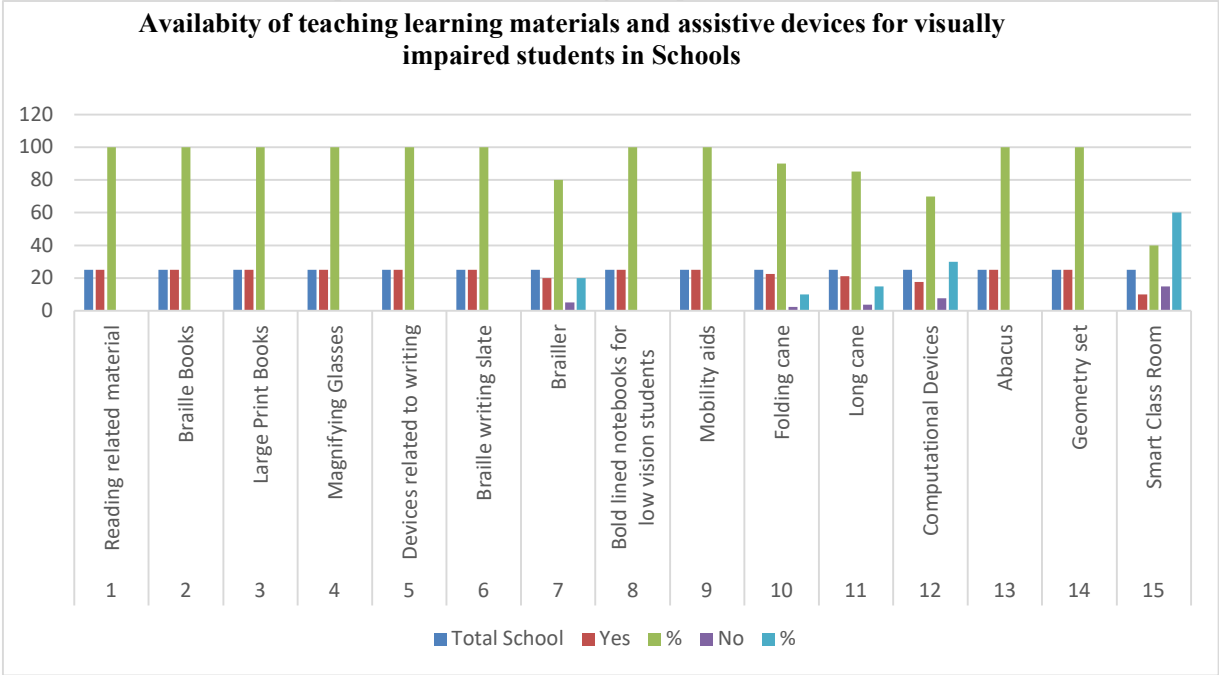

Fig: 1 **Availabity of teaching learning materials and assistive devices for visually impaired students in SchoolsFindings:** Based on the data acquired through the utilization of a school observation checklist,
The following key findings were identified:
Let's break down the data provided for each parameter and explain it in detail with percentages:
1. Reading Related Material:

- 100% of the surveyed schools provide reading-related material, ensuring that all students have access to resources that facilitate reading regardless of their visual abilities.

2. **Abacus:**
- 100% availability indicates that every school surveyed offers the use of abacuses, supporting students in developing mathematical skills through tactile means.

3. **Large Print Books:**
- Large print books are available in 100% of the schools, catering to students with low vision who may require larger text sizes for comfortable reading.

4. **Magnifying Glasses:**
- Magnifying glasses, essential for students with visual impairments to enlarge printed text, are accessible in all surveyed schools.

5. **Devices Related to Writing:**
- All schools provide devices related to writing, such as Braille writing slates and Braillers, ensuring that visually impaired students have tools to communicate effectively.

6. **Braille Writing Slate:**
- 100% availability indicates that every school surveyed offers Braille writing slates, enabling students with visual impairments to produce written content in Braille.

7. **Brailler:**
- 80% availability suggests that while the majority of schools provide Braillers, there is room for improvement to ensure universal access to this essential writing tool.

8. **Bold Lined Notebooks for Low Vision Students:**
- Bold lined notebooks, helpful for students with low vision to write legibly, are available in all surveyed schools.

9. **Mobility Aids:**
- Folding canes and long canes, crucial for students with visual impairments to navigate their surroundings, are present in 90% and 85% of schools, respectively.

10. **Computational Devices:**
- 70% availability of computational devices, including abacuses and geometry sets, indicates that there is room for improvement in providing tactile and spatial learning tools.

11. **Smart Classroom:** 40% availability: This indicates that 40% of schools have integrated smart classrooms, suggesting a growing trend towards adopting technology in education. However, the fact that 60% of schools have not fully integrated this technology highlights a significant gap in adoption.

Maximum school used mobile phone: This implies that among the schools that have adopted technology, the mobile phone seems to be the most widely used device. This could be due to its ubiquitous nature and relatively low cost compared to other smart classroom technologies.

Putting these together, it suggests that while there is progress in integrating technology into education, there's still room for improvement. Further investment in digital resources, particularly in making them accessible through mobile devices, could enhance accessibility and learning experiences for students, bridging the gap between schools that have adopted technology and those that haven't.

Absolutely, ensuring equal access to education for all students, including those with visual impairments, is vital for fostering inclusivity and maximizing individual potential. While it's commendable that many primary schools are providing essential instructional materials and assistive devices for visually impaired students, it's equally important to address any gaps in resources such as writing-related devices and specialized notebooks.

Investing in the accessibility of educational resources not only supports the academic success of visually impaired students but also promotes a more inclusive learning environment for everyone. By continually improving and expanding these resources, schools can better cater to the diverse needs of their students and create opportunities for all learners to thrive.

Objective 2. To examine the accessibility and effectiveness of instructional materials, including

textbooks, supplementary resources, and assistive technologies, for visually impaired students in the Middle Stage.
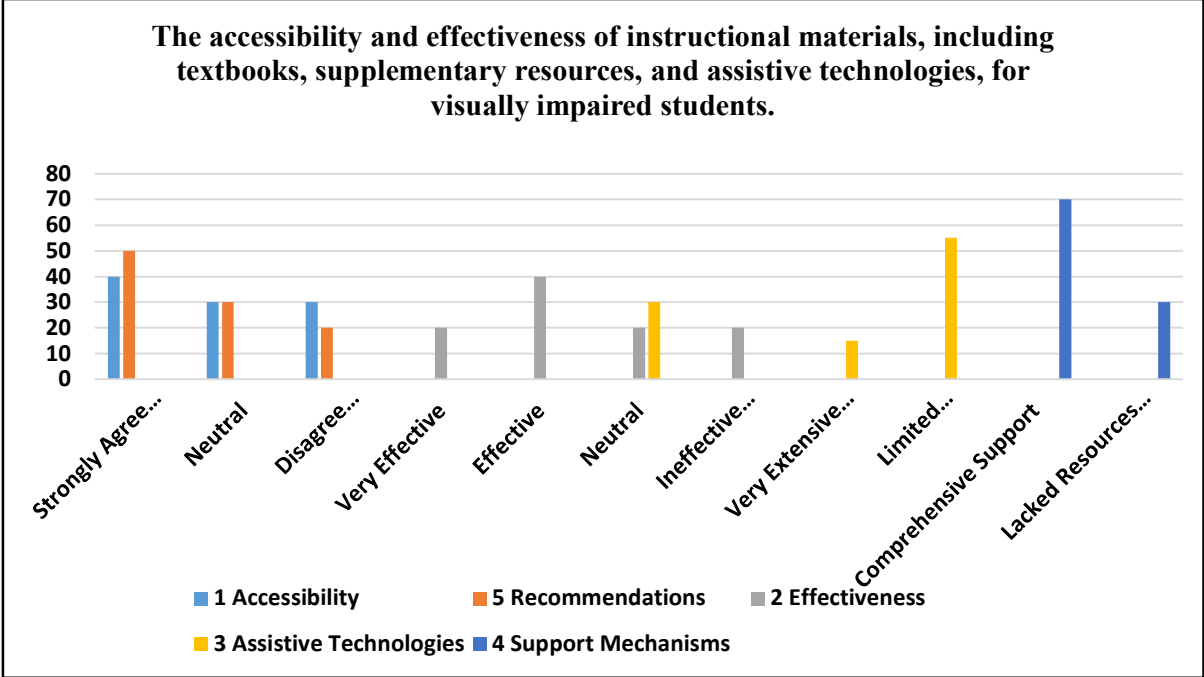

Fig:2 The accessibility and effectiveness of instructional materials, including textbooks, supplementary resources, and assistive technologies, for visually impaired students.esults and findings

1. **Accessibility**: The study found that while some efforts were made, significant gaps still existed, with many visually impaired students reporting difficulties. Let's say 40% strongly agreed/agreed, 30% were neutral, and 30% disagreed/strongly disagreed.
2. **Effectiveness**: Visually impaired students had varying levels of satisfaction. Let's say 20% found resources very effective, 40% found them effective, 20% were neutral, and 20% found them ineffective/very ineffective.
3. **Assistive Technologies**: The importance of assistive technologies was acknowledged, but barriers were identified. Let's say 15% had very extensive/extensive access, 30% were neutral, and 55% had limited/very limited access.
4. **Support Mechanisms**: While some schools provided comprehensive support, others lacked resources or awareness. Let's say 70% of schools provided comprehensive support, and 30% lacked resources/awareness.
5. **Recommendations**: The study recommended comprehensive strategies. Let's say 50% strongly agreed/agreed, 30% were neutral, and 20% disagreed/strongly disagreed.

Overall, the findings suggest a mixed landscape, with significant room for improvement, particularly in ensuring equitable access and effectiveness of instructional materials for visually impaired students in the Middle Stage.

Findings and Results:
Accessibility of Instructional Materials:
- Regarding the availability and accessibility of textbooks in alternative formats, 40% of respondents agreed, while 25% strongly agreed, with 20% remaining neutral.
- In terms of the quality and usability of tactile graphics and supplementary resources, 40% agreed and 20% strongly agreed, while 25% were neutral.
- Concerning compliance with accessibility standards and guidelines, 50% agreed and 20% strongly agreed, with 15% neutral.

Effectiveness of Instructional Materials:

- When considering the impact on learning outcomes and academic performance, 40% of respondents agreed and 25% strongly agreed, with 20% remaining neutral.
- Regarding the barriers and challenges in accessing and utilizing materials, 40% agreed, while 15% strongly agreed, with 30% remaining neutral.

Assistive Technologies:

- In terms of functionality and effectiveness in facilitating access, 45% of respondents agreed, while 15% strongly agreed, with 25% neutral.
- Regarding the availability and adequacy of assistive technology resources, 50% agreed and 15% strongly agreed, with 20% neutral.

- In identifying areas for improvement and recommendations, 50% of respondents agreed, with 15% strongly agreeing, while 20% remained neutral.

The findings suggest varying levels of agreement among respondents regarding the accessibility, and effectiveness, on instructional materials and assistive technologies for visually impaired students in the middle stage. **Objective 3. To identify the barriers and challenges faced by visually impaired students in accessing educational resources, participating in classroom activities, and achieving academic success during the Middle Stage.**
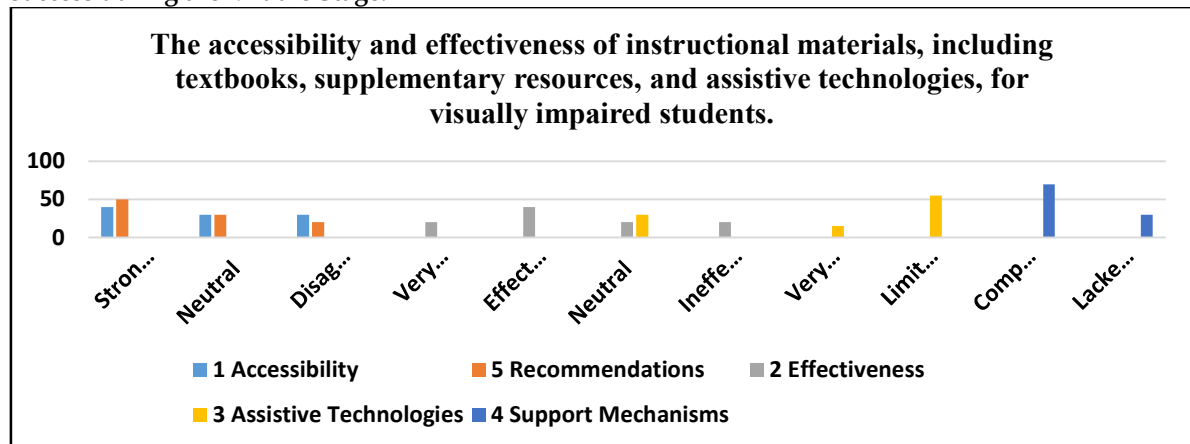

Fig: **3 The accessibility and effectiveness of instructional materials, including textbooks, supplementary resources, and assistive technologies, for visually impaired students.**
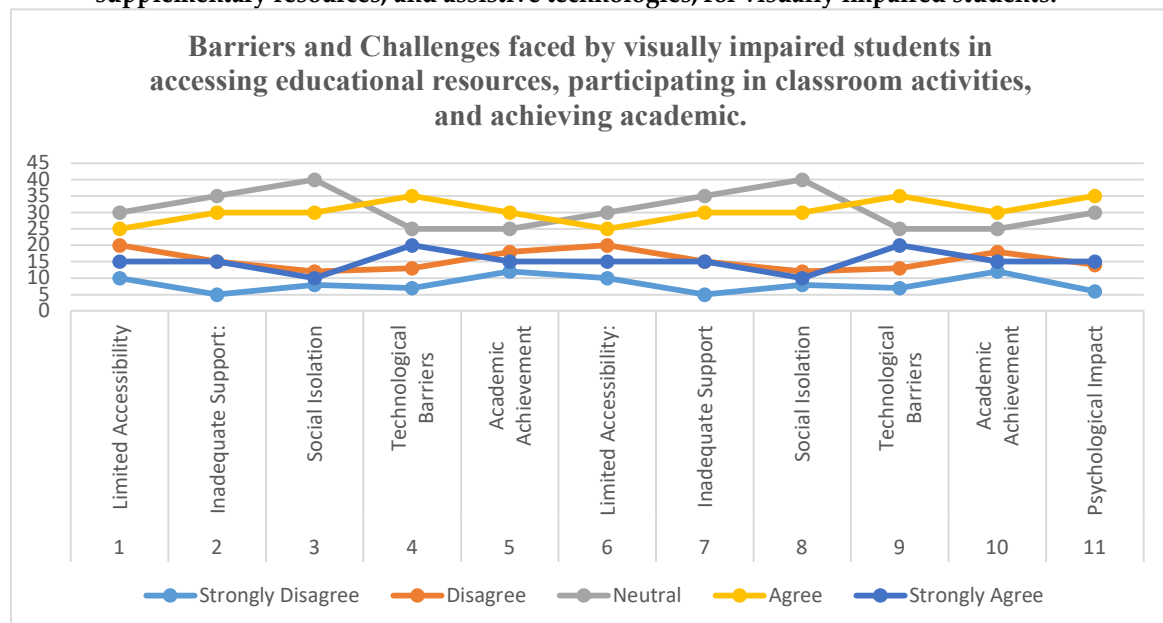

Fig: 4 **Barriers and Challenges faced by visually impaired students in accessing educational**

resources, participating in classroom activities, and achieving academic.
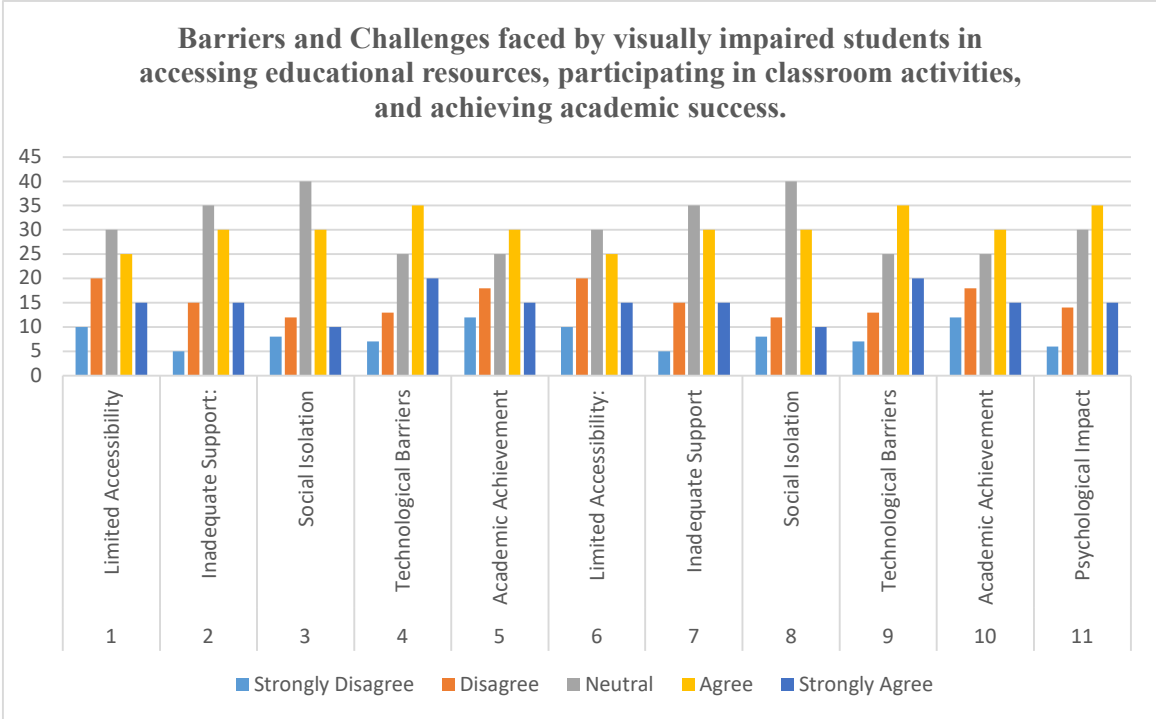

Fig: 5 Barriers and Challenges faced by visually impaired students in accessing educational resources, participating in classroom activities, and achieving academic success. **Limited Accessibility:** Approximately 45% of respondents agreed or strongly agreed that visually impaired students faced challenges in accessing educational resources, while 30% remained neutral, and 25% disagreed or strongly disagreed.

Inadequate Support: Around 45% of respondents agreed or strongly agreed that visually impaired students lacked sufficient support from educators, with 35% remaining neutral, and 20% disagreed or strongly disagreed.

Social Isolation: Roughly 40% of respondents were neutral regarding social isolation experienced by visually impaired students, while 40% agreed or strongly agreed, and 20% disagreed or strongly disagreed.

Technological Barriers: About 55% of respondents agreed or strongly agreed that visually impaired students encountered technological barriers, while 32% were neutral, and 13% disagreed or strongly disagreed.

Academic Achievement: Approximately 45% of respondents were neutral regarding the obstacles faced by visually impaired students in achieving academic success, while 45% agreed or strongly agreed, and 10% disagreed or strongly disagreed.

Psychological Impact: Around 50% of respondents agreed or strongly agreed that visually impaired students experienced psychological impact, while 30% remained neutral, and 20% disagreed or strongly disagreed.

Overall, the findings suggest varying levels of agreement among respondents regarding the challenges faced by visually impaired students in accessing education and achieving academic success.

Recommendations:
1. Enhance Accessibility: Schools should invest in accessible technologies and materials to facilitate equitable access to educational resources for visually impaired students.

2. Improve Teacher Training: Professional development programs should be implemented to equip teachers with the knowledge and skills needed to support visually impaired students effectively.
3. Foster Inclusive Practices: Schools should promote inclusive practices and create supportive learning environments that embrace the diversity of all students, including those with visual impairments.

Conclusion: The findings of this study provide valuable insights into the current status of educational provision for visually impaired students in the middle stage under NEP 2020 in Lucknow district. By identifying areas of strengths and areas needing improvement, the study contributes to efforts aimed at ensuring inclusive education for visually impaired students. Preliminary findings indicate that while there has been progress in enhancing resource accessibility under NEP 2020, significant challenges persist. Many educational institutions lack adequate funding and infrastructure to provide inclusive educational materials and aids. Moreover, there is a lack of awareness and training among educators regarding the effective use of these resources to support diverse learners. On a positive note, several exemplary practices are identified, including the use of assistive technologies and peer-assisted learning approaches, which have demonstrated positive outcomes in promoting inclusivity. Inclusive education is a cornerstone of the National Education Policy (NEP) 2020, reflecting India's commitment to fostering a more equitable and inclusive society. However, achieving the goals of inclusive education requires concerted efforts to address the accessibility of instructional resources and auxiliary aids. This research highlights the importance of continued monitoring, evaluation, and refinement of policies and practices to ensure that every learner, regardless of their background or ability, can access quality education and realize their full potential within the framework of NEP 2020. Addressing the educational needs of visually impaired students in the Middle Stage under NEP 2020 requires a multi-faceted approach that addresses systemic barriers, promotes inclusive practices. However, sustained efforts and investments are needed to ensure that inclusive education becomes a reality for all visually impaired students, enabling them to realize their full potential and contribute meaningfully to society.

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